**Minute No. 125**
**Report – Standing Policy Committee on Property and Development, Heritage and Downtown Development – January 12, 2016**

**Item No. 9 Improving Safety for New Development in Proximity to Railway Operations in the City of Winnipeg**

COUNCIL DECISION:

Council concurred in the recommendation of the Standing Policy Committee on Property and Development, Heritage and Downtown Development and adopted the following:

1. That the recommendations included in the attached staff report be adopted.

2. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

**Report – Standing Policy Committee on Property and Development, Heritage and Downtown Development – January 12, 2016**

DECISION MAKING HISTORY:

Moved by Councillor Orlikow,

That the recommendation of the Standing Policy Committee on Property and Development, Heritage and Downtown Development be adopted.

Carried

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On January 20, 2016, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Property and Development, Heritage and Downtown Development and submitted the matter to Council.

STANDING COMMITTEE RECOMMENDATION:

On January 12, 2016, the Standing Policy Committee on Property and Development, Heritage and Downtown Development concurred in the recommendation of the Winnipeg Public Service and submitted the matter to the Executive Policy Committee and Council.

STANDING COMMITTEE RECOMMENDATION:

On November 10, 2015, the Standing Policy Committee on Property and Development, Heritage and Downtown Development granted a further extension of time to its January 2016 meeting for the Winnipeg Public Service to explore and report back on how to improve safety for new development in proximity to railway operations.

COUNCIL DECISION:

On July 15, 2015, Council concurred in the recommendation of the Standing Policy Committee on Property and Development and adopted the following:

1. Than an extension of time to the November 10, 2015 meeting of the Standing Policy Committee on Property and Development, be granted for the Winnipeg Public Service to explore and report back on how to improve safety for new development in proximity to railway operations.

2. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

**Report – Standing Policy Committee on Property and Development, Heritage and Downtown Development – January 12, 2016**

DECISION MAKING HISTORY (continued):

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On July 8, 2015, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Property and Development and submitted the matter to Council.

STANDING COMMITTEE RECOMMENDATION:

On June 26, 2015, the Standing Policy Committee on Property and Development requested Council to grant an extension of time to the November 10, 2015 meeting of the Standing Policy Committee on Property and Development to explore and report back on how to improve safety for new development in proximity to railway operations.

COUNCIL DECISION:

On March 25, 2015, Council concurred in the recommendation of the Standing Policy Committee on Property and Development and adopted the following:

1. That the Winnipeg Public Service be directed to explore how to improve safety for new development in proximity to railway operations and to report back to Council and provide recommendations within 120 days.

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On March 18, 2015, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Property and Development and submitted the matter to Council.

STANDING COMMITTEE RECOMMENDATION:

On March 10, 2015, the Standing Policy Committee on Property and Development recommended that the Winnipeg Public Service be directed to explore how to improve safety for new development in proximity to railway operations and to report back to Council and provide recommendations within 120 days.

**Report – Standing Policy Committee on Property and Development, Heritage and Downtown Development – January 12, 2016**

DECISION MAKING HISTORY (continued):

COUNCIL DECISION:

On February 25, 2015, Council ruled automatic referral of the following motion to the Standing Policy Committee on Property and Development:

Moved by Councillor Allard,
Seconded by Councillor Browaty,

WHEREAS Winnipeg is intersected by many rail lines;

AND WHEREAS in many residential areas, rail lines pass very close to people's homes;

AND WHEREAS the Federation of Canadian Municipalities published its "Guidelines for New Development in Proximity to Railway Operations" in 2013, which included extensive and detailed recommendations for setbacks, barriers, and other precautionary measures;

AND WHEREAS there may have been an increase in rail traffic carrying dangerous goods such as oil and other flammable materials passing through the City, and there is reason to believe this trend will persist;

AND WHEREAS the two year anniversary of the Lac-Mégantic disaster is approaching on July 6, 2015, and the lessons learned from that tragedy must be applied to improving the safety of Winnipeggers;

AND WHEREAS a serious derailment could lead to great destruction, injury & loss of life;

THEREFORE BE IT RESOLVED THAT the Winnipeg Public Service explore how to improve safety for new development in proximity to railway operations and to report back to Council and provide recommendations within 120 days.

# ADMINISTRATIVE REPORT

**Title:** Improving Safety for New Development in Proximity to Railway Operations in the City of Winnipeg

**Critical Path:** Standing Policy Committee on Property and Development, Heritage and Downtown Development – Executive Policy Committee – Council

## AUTHORIZATION

| Author | Department Head | CFO | CAO/COO |
|---|---|---|---|
| B. Smith | J. Kiernan | n/a | M. Jack<br>COO |

## RECOMMENDATIONS

1. That Council adopt the recommendations included in the attached staff report.
2. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

## REASON FOR THE REPORT

On March 25, 2015, Council adopted the following motion that was originally passed by the Standing Policy Committee on Property and Development, Heritage and Downtown Development (March 10, 2015) and concurred in by the Executive Policy Committee (March 18, 2015):

*…that the Winnipeg Public Service be directed to explore how to improve safety for new development in proximity to railway operations and to report back to Council and provide recommendations within 120 days.*

The subject report is being submitted in response to this motion adopted by Council.

## EXECUTIVE SUMMARY

Over the past eight months the Public Service undertook the following steps to provide recommendations to Council on the matter:

- Reviewed the Federation of Canadian Municipalities/Railway Association of Canada (FCM/RAC) *Guidelines for New Development in Proximity to Railway Operations (May 2013)* (the "FCM/RAC Guidelines");

- Consulted with representatives from: Canadian National Railway (CNR); Canadian Pacific Railway (CPR); BNSF Railway; Central Manitoba Railway (CEMR); the City of Winnipeg Aqueduct Railway; and, the Project Manager of the FCM/RAC Proximity Initiative;

- Reviewed the City of Winnipeg's current policies, regulations, and practices with respect to new residential development adjacent to rail lines;

- Examined and categorized the types of rail lines found within the City of Winnipeg with the rail companies previously mentioned;

- Conducted a cross-jurisdictional review of regulations and consulted with representatives from six other major Canadian municipalities with respect to residential or sensitive development in proximity to rail lines and yards; and,

- Digitally overlaid the recommended setbacks for residential development adjacent to rail identified within the FCM/RAC Guidelines on top of a City of Winnipeg land parcel map and reviewed the potential impacts on private property.

The attached staff report provides a summary of the findings as well as explanations for the recommendations. The subject report is a background document; there has been no public consultation involved in its drafting. The recommendations are:

**Recommendation 1: Amend *OurWinnipeg* and/or the *Complete Communities Direction Strategy* to Include Policies for Development of New Residential and Sensitive Uses Adjacent to Rail Lines and Yards**

- Policies should be added to *OurWinnipeg* and/or the *Complete Communities Direction Strategy* which would require the use of mitigation measures for buffering the development of new residential and other sensitive uses adjacent to rail lines or yards. Most other Canadian cities reviewed in this report have polices for buffering between rail lines and sensitive uses. The City of Winnipeg currently has none.

**Recommendation 2: Develop Council-Endorsed Guidelines for Buffering Residential and Sensitive Uses from Rail Lines and Yards**

- There are several ways to potentially buffer a residential or sensitive use from an adjacent rail line. Using the mitigation measures provided in the FCM/RAC Guidelines as a base, it is recommended that the City of Winnipeg develop guidelines, for Council endorsement, that could serve both the public and administration. The guidelines could provide direction on the various acceptable forms of mitigation measures that could be applicable for a new development proposal that requires a variance, conditional use, subdivision, consent to convey, rezoning, or zoning agreement amendment where the addition of one or more dwelling unit(s) or the intensification of a sensitive use is proposed.

  The guidelines could be developed at the same time as an amendment to *OurWinnipeg* and/or the *Complete Communities Direction Strategy* is in process. Public consultation would be required for the amendment(s) and the creation of the guidelines.

  In light of the recent discussions regarding rail rationalization in Winnipeg, creation of a guidelines document provides a flexible tool that becomes easier to amend if rail rationalization plans come to fruition. At this time, without the full scope, feasibility, timelines, and priority yards and rail lines identified, it is anticipated that all major rail yards and lines would be included in the guidelines until further clarification on rail rationalization is completed.

**Recommendation 3: Conduct Hazard Risk and Vulnerability Assessment for the City, which would include Rail Lines**

- Although it is impractical to implement mitigation and setback standards in either the Winnipeg or Downtown Winnipeg Zoning By-laws for established neighbourhoods (as explained in the attached staff report), the City of Winnipeg can work to better coordinate emergency services in the event of a rail emergency by conducting a hazard risk and vulnerability assessment. Such an assessment could focus solely on the rail industry; however, the City would benefit from a complete assessment as such an assessment does not currently exist.
- A comprehensive examination of the City of Winnipeg's hazards and associated risk levels of such; along with the state of vulnerabilities provides a bench mark tool for assessing priorities in making the city safer. There are many types of hazard studies. A single focus (railway industry) assessment while being useful and cost effective, only offers one view or angle of the bigger picture when it comes to identifying hazard, measuring risk and deciding on actions to make our city safer.

**Recommendation 4: Investigate the Potential to Regulate Sound and Vibration Levels within New Residential Development in the Vicinity of Rail Lines**

- A key component of the FCM/RAC Guidelines is reducing the impact of noise and vibration within residential and other sensitive uses adjacent to rail lines or yards. Other jurisdictions reviewed (ex. Montreal) require developers to provide noise and vibration studies and abatement measures for development adjacent to rail. The City of Winnipeg currently does not regulate sound and vibration levels within new residential development adjacent to rail lines. Accordingly, it is recommended that the Public Service investigate the potential for the City of Winnipeg to regulate noise and vibration standards within residential construction adjacent to rail lines or yards, while taking into consideration costs associated with sound and vibration testing/mitigation and local expertise in the field.

**Recommendation 5: Long-Range Planning and Potential Zoning Changes for Specific Areas Adjacent to Rail Lines**

- Over the long-term, after policy direction is established in *OurWinnipeg* and/or the *Complete Communities Direction Strategy* and Council-endorsed guidelines are adopted for buffering new residential or sensitive uses from rail lines or yards, it is recommended that the Public Service pursue planning for redevelopment along rail lines when warranted. Most neighbourhoods with properties adjacent to rail are likely to remain fairly static, but it is anticipated that opportunities will arise for redevelopment, notably along any rapid transit corridor that may follow a rail line. In these areas where transition is likely and desirable from a planning perspective, it is recommended that the Public Service consider pursuing long-range planning activities such as undertaking secondary plans for specific areas adjacent to rail lines. Zoning changes or zoning tools, such as a planned development overlay (PDO) could be contemplated if such tools are required to implement the plan.

## IMPLICATIONS OF THE RECOMMENDATIONS

If the recommendations of the Public Service are concurred in, the Public Service will initiate an *OurWinnipeg* and/or *Complete Communities Direction Strategy* amendment to add policies for the development of new residential and sensitive uses adjacent to rail lines and yards. At the same time, the Public Service will begin the development of guidelines for buffering residential and sensitive uses from rail lines or yards. Public consultation will be required for both the amendment(s) and the creation of the guidelines document.

Over the long-term, the Winnipeg Fire Paramedic Service alongside the Winnipeg emergency preparedness program will conduct a hazard/risk vulnerability assessment, which would include rail lines in order to better coordinate emergency responses. The Public Service will also investigate the potential to regulate sound and vibration levels for new residential development in the vicinity of rail lines and yards, continue to monitor development adjacent to rail lines and yards and direct long-range planning efforts adjacent to rail lines and yards when appropriate.

## HISTORY

On March 25, 2015, Council concurred in the recommendation of the Standing Policy Committee on Property and Development, Heritage and Downtown Development and adopted the following:

*That the Winnipeg Public Service be directed to explore how to improve safety for new development in proximity to railway operations and to report back to Council and provide recommendations within 120 days.*

On July 15, 2015, the Standing Policy Committee on Property and Development, Heritage and Downtown Development granted an extension of time to the November 10, 2015 meeting of the Standing Policy Committee on Property and Development.

On November, 10, 2015, the Standing Policy Committee on Property and Development, Heritage and Downtown Development granted a further extension of time to the January, 2016 meeting of the Standing Policy Committee on Property and Development, Heritage and Downtown Development.

## FINANCIAL IMPACT

### Financial Impact Statement **Date:** December 7, 2015

### Project Name:

**Improving Safety for New Development in Proximity to Railway Operations in the City of Winnipeg**

**COMMENTS:**

There are no direct financial implications associated with the recommendations contained in this report.

*"Original Signed By"*
Mike McGinn, CA
Manager of Finance

## CONSULTATION

In preparing this report there was consultation with:

Internal Consultation: Legal Services, as per legal issues; Fire Paramedic Service; Public Works; Water and Waste; Winnipeg Transit; Land Development, Geomatics and LIS Division; Zoning and Permits; Development and Inspections.

External Consultation: Canadian National Railway; Canadian Pacific Railway; BNSF; Central Manitoba Railway; Federation of Canadian Municipalities/Railway Association of Canada Proximity Initiative; City of Moncton; City of Montreal; City of Toronto; City of Saskatoon; City of Regina; City of Calgary.

## OURWINNIPEG POLICY ALIGNMENT

Findings of the subject report recommend adding policy to *OurWinnipeg* and/or the *Complete Communities Direction Strategy* for buffering new residential or sensitive uses adjacent to rail lines or yards. The majority of other Canadian cities reviewed in this report have polices requiring mitigation standards between rail lines and sensitive uses. The City of Winnipeg currently has none.

## SUBMITTED BY

Department: Planning, Property and Development
Division: Urban Planning Division
Prepared by: Robert Kostiuk, MCIP
File No. n/a
Date: December 9, 2015

ATTACHMENT: Staff Report

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# Improving Safety for New Development in Proximity to Railway Operations in the City of Winnipeg

**City of Winnipeg**
**Planning, Property and Development Department**
**November, 2015**

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## 1.0 Introduction

On March 25, 2015, Council passed a motion directing the Winnipeg Public Service to "*explore how to improve safety for new development in proximity to railway operations and to report back to Council and provide recommendations in 120 days*." Over the past eight months the Public Service undertook the following steps to provide recommendations to Council on the matter:

- Reviewed the Federation of Canadian Municipalities/Railway Association of Canada (FCM/RAC) *Guidelines for New Development in Proximity to Railway Operations (May 2013)* (the "FCM/RAC Guidelines");

- Consulted with representatives from: Canadian National Railway (CNR); Canadian Pacific Railway (CPR); BNSF Railway; Central Manitoba Railway (CEMR); the City of Winnipeg Aqueduct Railway; and, the Project Manager of the FCM/RAC Proximity Initiative;

- Reviewed the City of Winnipeg's current policies, regulations, and practices with respect to residential development adjacent to rail lines;

- Examined and categorized the types of rail lines found within the City of Winnipeg with the rail companies previously mentioned;

- Conducted a cross-jurisdictional review of regulations and consulted with representatives from six other major Canadian municipalities with respect to residential or sensitive development in proximity to rail lines and yards; and,

- Digitally overlaid the recommended setbacks for residential development adjacent to rail identified within the FCM/RAC Guidelines on top of a City of Winnipeg land parcel map and reviewed the potential impacts on private property.

The following report provides a summary of the findings and discusses the recommendations and next steps. It should be noted that the Planning Property and Development Department has not undertaken any level of public consultation for this report. Any public consultation should occur after a recommended approach is established by Council.

## 2.0 The FCM/RAC Guidelines for New Development in Proximity to Railway Operations (2013)

In May 2013, the Federation of Canadian Municipalities (FCM) and Railway Association of Canada (RAC) provided an update to its 2004 Proximity Initiative in developing the *Guidelines for New Development in Proximity to Railway Operations* (the FCM/RAC Guidelines). The FCM/RAC Guidelines provide a comprehensive set of recommendations with respect to safety

measures for the development of sensitive uses – such as residential – near rail lines. The FCM/RAC Guidelines include a number of recommendations that are intended to help mitigate land use conflicts between sensitive uses and railway operations. With respect to safety, the key mitigation measures identified in the FCM/RAC Guidelines focus on building setbacks from rail lines and yards, safety barriers (ex. berms), and security fencing.

## *2.1 Building Setbacks*

The recommended setbacks for new residential development in proximity to railway operations are as follows:

| | |
|---|---|
| Freight Rail Yard: | 300 metres |
| Principle Main Line: | 30 metres |
| Secondary Main Line: | 30 metres |
| Principle Branch Line: | 15 metres |
| Secondary Branch Line: | 15 metres |
| Spur Line: | 15 metres |

The recommended setbacks are intended to be used in conjunction with other mitigation measures, such as berms. However, it is recognized that the mitigation measures are not intended as retrofits for existing residential neighbourhoods and therefore the measures are easiest to implement in new greenfield development (pg 20). Other key points pertaining to the setbacks include:

- The recommended setback distances are to be measured as a straight-line horizontal distance from the mutual property line with the rail right-of-way to the principal building face;
- If larger setbacks are proposed, reduced berm heights can be considered;
- Small reductions in the setback – up to 5 metres – may be achieved through a reciprocal increase to the height of a safety berm on the site;
- Substantial reductions to the setback may be achieved through the construction of a crash wall;
- Variations to the setback may be considered where there are elevation differences between the railway and subject property;
- The recommended setbacks apply to the principal building; accessory buildings or uses such as garages, sheds, private roads or parking areas may be developed within the recommended setback. Public roads can be considered in the setback area for new developments.

The recommended tool in the FCM/RAC Guidelines to implement minimum setbacks adjacent to rail is the establishment of minimum setback requirements through an amendment to the local jurisdiction's zoning by-law.

## *2.2 Safety Barriers*

The standard safety barrier recommended in the FCM/RAC Guidelines is an earthen berm that is constructed adjoining and parallel to the rail right-of-way with returns at the ends and built to the following specifications:

| | |
|---|---|
| Principle Main Line: | 2.5 metres above grade with side slopes no steeper than 2.5 to 1; |
| Secondary Main Line: | 2.0 metres above grade with side slopes no steeper than 2.5 to 1; |
| Principle Branch Line: | 2.0 metres above grade with side slopes no steeper than 2.5 to 1; |
| Secondary Branch Line: | 2.0 metres above grade with side slopes no steeper than 2.5 to 1; |
| Spur Line: | No requirement. |

Built to the full standards, berms will have a width of up to 15 metres. As with the recommended setbacks, variations may be considered for berms, including:

- Berm heights may be reduced where larger setbacks are proposed;
- Steeper berm slopes may be possible, but need to be negotiated with the affected railway;
- There is no requirement for the developer to drop the berm back to grade on the side of the berm facing the development;
- Small reductions in the setback – up to 5 metres – may be achieved through a reciprocal increase to the height of a safety berm on the site;
- A ditch or swale between the development and the railway that is equal to or greater than the berm can be considered.

Besides berms, other safety barriers that can be considered are crash berms, which are hybrids between a regular berm and a crash wall, and crash walls. Criteria for the development of crash walls are included in the FCM/RAC Guidelines. The FCM/RAC Guidelines recommend that local jurisdictions use urban design guidelines as a tool for the use and design of berms.

## *2.3 Security & Acoustical Fencing*

Trespassing onto the rail corridor is a major safety concern. The minimum recommended requirement for security fencing is a 1.83 metre (6 foot) chain length fence along the mutual property line with the purpose of creating a continuous barrier to discourage trespassing. Other fencing materials may be considered, including noise barriers and crash walls. The standard mitigation measures (see Figure 1) also require a 3 metre tall acoustical fence on top of the berm.

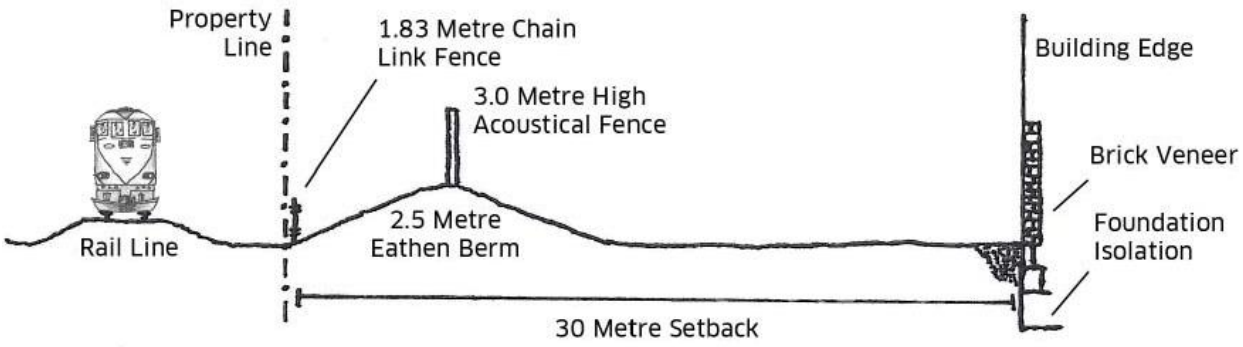



**Figure 1: Standard Mitigation for New Residential Development in Proximity to Rail** (source: *FCM/RAC Guidelines for New Development in Proximity to Railway Operations (2013, pg 19)).*

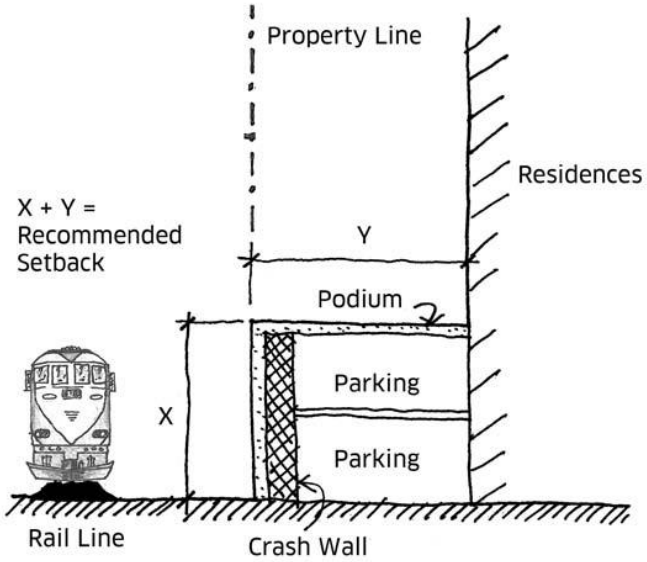



**Figure 2: Incorporating a Crash Wall Into a Development Can Reduce the Recommended Setback** (source: *FCM/RAC Guidelines for New Development in Proximity to Railway Operations (2013, pg 27)).*

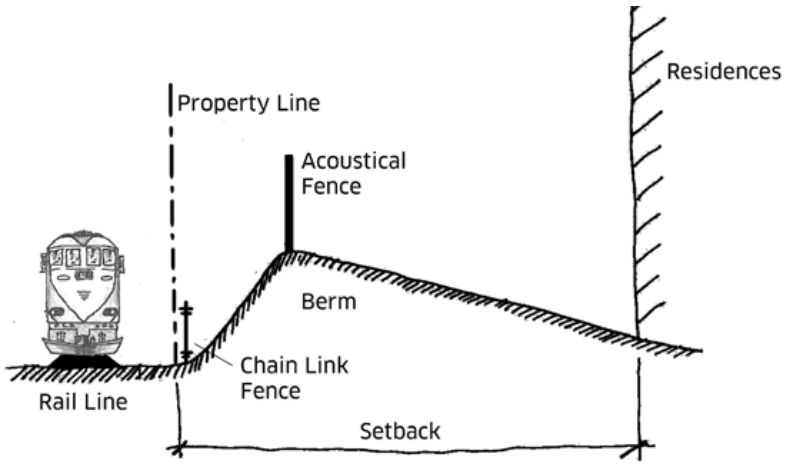



**Figure 3: Gradually Returning to Grade from the Top of the Berm** (source: *FCM/RAC Guidelines for New Development in Proximity to Railway Operations (2013, pg 38)).*

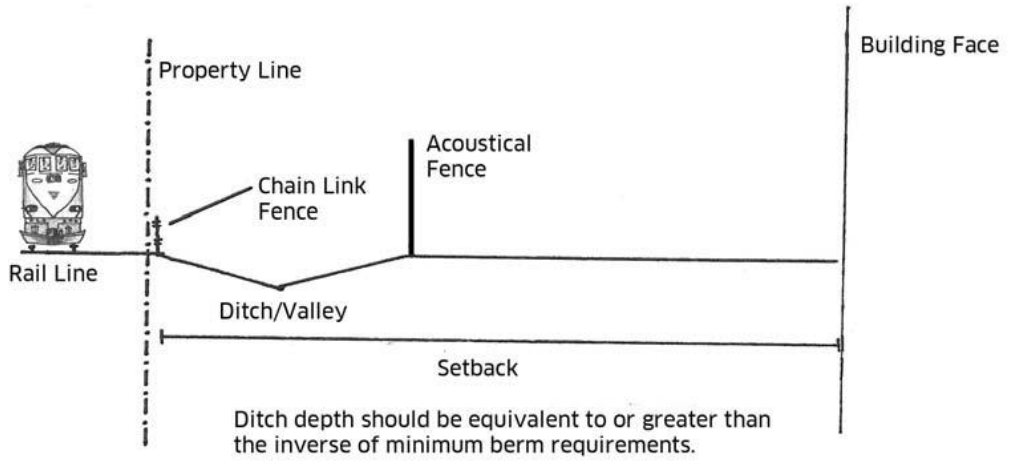



**Figure 4: Using a Ditch of Equivalent Depth to a Standard Berm Height in Place of a Standard Berm Adjacent to a Rail Line** (source: *FCM/RAC Guidelines for New Development in Proximity to Railway Operations (2013, pg 40)).*

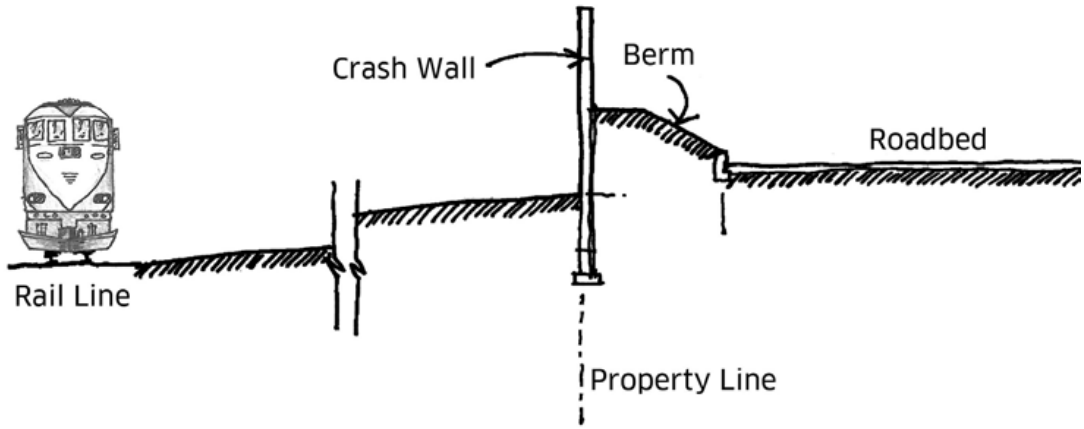



**Figure 5: Example Configuration of a Crash Berm** (source: *FCM/RAC Guidelines for New Development in Proximity to Railway Operations (2013, pg 41)).*

It should be made clear that the items discussed above are the key components included in the FCM/RAC Guidelines regarding *safety*. There are a number of other items within in the Guidelines that deal with ways to: mitigate noise and vibration; address construction issues; address stormwater management and drainage; incorporate warning clauses and legal agreements into developments; and, formulate a process for consultation with the railways.

## *3.0 The City of Winnipeg's Current By-laws, Policies, and Practices with Respect to the Development of Residential and Sensitive Uses Adjacent to Rail Lines*

### *3.1 OurWinnipeg and The Complete Communities Direction Strategy*

There are no specific policies or regulations guiding the development of residential or sensitive uses adjacent to rail lines in the City of Winnipeg's Development Plan and Urban Structure by-laws, OurWinnipeg Plan By-law No. 67/2010 and the Complete Communities Direction Strategy By-law No. 68/2010.

## *3.2 The City of Winnipeg Secondary Plans*

Excluding the *Complete Communities Direction Strategy*, there are a total of twenty-five secondary plans within the City of Winnipeg. Of these, the following nine secondary plans are either bordered by a rail line or have a rail line running through the plan area:[1]

- Airport Area West Secondary Plan (By-law No.8097/02);
- Corydon-Osborne Area Plan (By-law No. 99/2014);
- North St. Boniface Secondary Plan (By-law No. 179/2005);
- Precinct "I" – Transcona North Precinct Plan (By-law 1/2014);
- Precinct "K" (By-law No. 48/2014);
- Precinct "Q" – Ridgewood South Precinct Plan (By-law No. 62/2013);
- St. Vital Perimeter South Secondary Plan (By-law No. 1735/77);
- Transcona West Area Structure Plan (By-law No. 215/2006); and,
- Wilkes South Secondary Plan (By-law No. 6391/1994).

Buffering requirements for uses adjacent to the rail lines in each of the aforementioned plans vary. For example, some of the more recently adopted plans, such as the plans for Precinct "K" and Precinct "Q", include policies for noise attenuation measures at the development application stage. However, most of the secondary plans do not include any specific policy on mitigation measures for development adjacent to rail.

Not included in the list above are secondary plans that focus on a rail yard or that are located within 300 metres of a rail yard. The Transcona Yards Industrial Neighbourhood Area Redevelopment Plan (By-law No. 141/2005) is focused on the CNR Transcona Yards. The intent of the plan is to ensure that compatible industrial or commercial uses locate within the plan area and that adequate buffering is provided between these uses and the existing residential uses along Pandora Avenue and Plessis Road. The West Alexander & Centennial Neighbourhood Plan (By-law No. 64/2008) is also excluded from the list above as the majority of residential properties or lands designated for residential development within the plan area are over 200 metres from the CPR Weston and Winnipeg Yards.

[1] This count does not include the Airport Vicinity Protection Area Secondary Plan (By-law 6378/94) as that plan includes polices relating specifically to the operations of the airport.

### *3.3 City of Winnipeg Plans Approved as Council Policy (Non-Statutory Plans)*

Since the adoption of *OurWinnipeg* and the *Complete Communities Direction Strategy* in 2011 there have been eight plans approved as Council policy. Of these eight plans, the following three included lands were adjacent to a rail line or lands within 300 metres of a rail yard:[2]

- Precinct "C" Waterford Green Precinct Plan;
- Taylor Redevelopment Master Plan
- The Yards at Fort Rouge Area Master Plan.

Both Precinct "C" and the Taylor Redevelopment Master Plan include a requirement for buffering from the adjacent rail lines (CPR Arborg and CNR Rivers respectively). The Yards at Fort Rouge does not include any specific requirements for buffering from the Fort Rouge Rail Yard; however, the plan area is separated from the rail yard by the Rapid Transit Corridor, which is at least 25 metres wide.

### *3.4 The Downtown Winnipeg Zoning By-law No. 100/2004 and the Winnipeg Zoning By-law No. 200/2006*

The Downtown Winnipeg Zoning By-law No. 100/2004 does not have any specific regulations with respect to development adjacent to rail. There are three instances in the Winnipeg Zoning By-law No. 200/2006 where rail setbacks are regulated:

- Under section 22 of Schedule K where an area specific special yard of 50 feet to any habitable room applies to the residential lots along Wisteria Way that are adjacent to the CPR Winnipeg Beach Primary Branch Line.

- Under section 25 of Schedule K where an area specific special yard of 50 feet to any habitable room applies to the residential lots abutting the CPR Winnipeg Beach Primary Branch Line along Gateside Way and Ben Hewak Bay.

- Within Schedule R, the Taylor Redevelopment Area Planned Development Overlay 2 (PDO-2 Taylor Redevelopment Area) the dimensional standards table requires residential structures within Zone 3 to have a 65 foot setback from the railway tracks (CNR Rivers Principle Main Line) and a 10 foot setback from the property line with a 10 foot tall fence on top of a 3 foot berm, or such engineering design determined to be at a minimum TL (transmission loss) of 25 for noise and vibration attenuation approved by the Director of Planning Property and Development.

[2] The Bishop Grandin Crossing Area Master Plan is not included in this list because it is separated from the CNR Letellier rail line by a +/- 60 metre wide Hydro corridor. Precinct "J" is also not included because the residential component of this plan is predominantly 300 metres or more from the southern boundary of the CNR Symington Yards.

The three instances where a setback from a rail line was included in the Winnipeg Zoning By-law No. 200/2006 resulted from subdivision and rezoning applications. Sections 22 & 25 of Schedule K were special yard requirements of DASZ 19/1998. The setback in the PDO-2 Taylor Redevelopment Area Planned Development Overlay 2 (the PDO-2) was developed through the creation of the PDO-2 via DASZ 4/2013. Requiring setbacks or buffering from a rail line through conditions of a rezoning or subdivision and rezoning has been a common practice as discussed below under *Subdivision and Rezoning Applications – Current Practice for Mitigation from Rail Lines*.

### *3.5 Development Agreement Parameters*

The Development Agreement Parameters, Policy Number PD-006, do not include any policies with respect to developer obligations for mitigation measures along rail lines.

### *3.6 Sustainable Transportation Strategy & Transportation Master Plan*

Section 05-2c of the Sustainable Transportation Strategy, Policy Number TR-004, includes a general policy statement regarding implementing "*measures to protect and conserve a strategic goods network for roads, rail, and air facilities*." However, there are no further specific policies guiding buffering or mitigation measures for sensitive uses adjacent to rail lines.

The Transportation Master Plan, Policy Number TR-007, also does not have any specific policies guiding the development of residential or sensitive uses adjacent to rail lines. The Transportation Master Plan provides a general indication of the potential alignment of the Rapid Transit Corridors beyond what is included in *OurWinnipeg* or the *Complete Communities Direction Strategy*. Some of these rapid transit corridors are to be developed within the rail right-of-way, such as a part of stage 2 of the Southwest Rapid Transit Corridor, which is to be developed within the CNR Letellier Subdivision. The CPR Emerson Subdivision is also identified as the Southeast Rapid Transit Corridor for the period beyond 2031.

### *3.7 Subdivision and Rezoning Applications – Current Practices for Mitigation from Rail Lines*

The City of Winnipeg Urban Planning Division has often recommended incorporating some level of mitigation or buffering requirements between rail lines and residential or sensitive uses through conditions of a rezoning (DAZ) or subdivision and rezoning (DASZ) application. A review of DASZ and DAZ applications since 2003 demonstrated that the mitigation measure most frequently used has been the establishment of a setback from the rail line to a habitable room through a special yard requirement within a zoning agreement. However, since 2003 the mitigation measures required through a DASZ or DAZ have varied. Coinciding with the publication of the 2013 FCM/RAC Guidelines, the full berming, fencing, and setback requirement has been integrated into greenfield subdivision and rezonings. Specifically, DASZ

50/2013 (Precinct Q – Ridgewood South)[3] and DASZ 21/2014 (Precinct K) included recommendations for meeting the full FCM standard mitigation measures for residential development in proximity to a main rail line. Both of these subdivision and rezoning applications fell within secondary plan areas that included a policy requirement for buffering from a rail line.

As greenfield subdivision and rezoning applications are often made up of large acreages of undeveloped land, the inclusion of mitigation measures such as a setback, or a setback and berm may be easier to accommodate into the development plans. However, concerns arise regarding the ownership or maintenance of the "back side of the berm" (i.e. the area between the rail line and the berm) when trying to apply the FCM standard mitigation measures for residential development in proximity to a rail line. Applying the standard mitigation measures results in a sloped, +/-7.5 metre linear area that is fenced on either side. From a landowner or developer perspective, this area may be viewed as undesirable as it is land that would be owned by the landowner or developer, but not particularly accessible. Given that the land is not accessible, it is often not maintained by the landowner. In most cases, the City of Winnipeg prefers to not assume ownership of the back side of the berm as park space or public reserve land for a few reasons:

- The land is narrow and sloped, so it most often does not accommodate suitable park space for trails;
- The land is fenced on either side, which results in entrapment areas and areas that are not easy for the public to see into, which is a public safety concern; and,
- The land is difficult for the City to maintain.

Recommending whether or not the full FCM standard mitigation measures should be applied to infill residential development requiring a DAZ or DASZ has been more challenging for the Urban Planning Division. Most often, the Urban Planning Division has recommended a setback from the rail line with a fence, but has not required a berm, which was consistent with the predominant approach taken for most greenfield developments at the time, but inconsistent with the FCM/RAC Guidelines.

## *4.0 Rail Lines and Yards in Winnipeg*

Winnipeg is a significant railway centre with over 150 km of rail lines (not including most spur lines) and over 2,000 acres of land used for rail yards. Winnipeg's rail lines provide a strategic link to rest of Canada and the United States. Rail classifications and useage varies throughout the City of Winnipeg. The following table (Figure 6) provides a summary of each of the rail lines reviewed, organized by FCM classification. Most spur lines were not reviewed in this study and are not included in the table below as these lines typically are found in industrial areas in Winnipeg. As indicated in the footnotes, the "average number of trains" column provides more of a snapshot in time as traffic volumes may change depending on demand. The "maximum

[3] The recommended setback for DASZ 50/2013 was modified to 28.04 metres instead of 30 metres.

speed” column presents the maximum regulated speed; however, various factors will affect actual operating speeds throughout the City.

**Figure 6: Rail Lines in Winnipeg[4]**

| Rail Line | FCM/RAC Rail Line Classification | Average No. of Trains[5] | Maximum Speed[6] | Transport Canada Track Class. | OurWinnipeg or Complete Communities Adjacent Policy Area(s) | Adjacent Zoning |
|---|---|---|---|---|---|---|
| CNR Rivers | Principle Main Line | 40-50 per day | 35 mph (east of Fairmont)<br>45 mph (west of Fairmont) | Class 3 (east of Fairmont)<br>Class 4 (west of Fairmont) | Downtown; Mature & Recent Communities; New Communities; Major Redevelopment Sites; Regional Mixed Use Corridor | Residential, Commercial, Manufacturing, Park, Agricultural, Character and Multiple Use Sector (Downtown) |
| CNR Redditt | Principle Main Line | 50+ per day | 60 mph | Class 4 | Mature & Recent Communities; Employment Lands; Park | Mainly Manufacturing and Residential |
| CNR Sprague | Principle Main Line | 20 + per day | 60 mph | Class 4 | Mature Communities; Major Redevelopment Site (Public Markets); Employment Lands; | Mainly Manufacturing, Residential, and Park |
| CPR Carberry | Principle Main Line | at least 20 per day | 35-45 mph | Class 4 | Major Redevelopment Site (South Point Douglas); Downtown; Mature Community; Employment Lands | Mainly Manufacturing, some Residential and Multiple Use Sector (Downtown) |
| CPR Keewatin | Principle Main Line | at least 20 per day | 35-45 mph | Class 4 | Mature and Recent Communities | Predominantly Residential |

[4] This table excludes most spur lines in Winnipeg.
[5] Train traffic volumes are subject to change as a function of shipper needs, in accordance with legal level of service obligations of railway companies.
[6] Speeds provided are maximum regulated track speeds; several factors may in fact result in lower operating speeds.

| Rail Line | FCM/RAC Rail Line Classification | Average No. of Trains[5] | Maximum Speed[6] | Transport Canada Track Class. | OurWinnipeg or Complete Communities Adjacent Policy Area(s) | Adjacent Zoning |
|---|---|---|---|---|---|---|
| CPR Emerson | Secondary Main Line | 6-8 per day | 15 mph to Marion St; 25 mph from Marion St to City limits | Class 2 | Predominantly Mature and Recent Community; New Community (Precinct K), Major Redevelopment Site (Public Markets) | Mainly Residential, some Manufacturing |
| BNSF | Principle Branch Line | 2-4 per day | 25 mph | Class 2 | Mature Community | Predominantly Residential with some Commercial |
| CNR Letellier | Principle Branch Line | Generally less than 5 per day | 25 mph | Class 2 | Mature and Recent Communities; Regional Mixed Use Corridor; Rural and Ag.; | Residential; Commercial; Manufacturing; and Agricultural |
| CNR St. Boniface Yard Lead | Yard Track [7] | 2-4 per day | 20 mph | Class 2 | Employment Lands & Major Redevelopment Site (Public Markets) | Manufacturing |
| CPR Winnipeg Beach | Principle Branch Line | 3 trains per week | 15 mph | Class 2 | Mature and Recent Communities; New Communities (Precinct G), Employment Lands | Predominantly Residential, Agricultural, some Manufacturing and Commercial |
| CPR Arborg | Principle Branch Line | Seasonal traffic depends on grain. Typically 3 trains per week but increases following harvest | 15 mph | Class 2 | Mature and Recent Communities; New Communities (Precincts B & C); Employment Lands | Residential, Manufacturing, Agricultural |

[7] The CNR St. Boniface Yard Lead is part of the same railway entity as the CNR/CPR Transfer Yard and CNR Symington Yard in terms of operations. As such, this line is classified as part of the rail yard and is defined as a "Yard Track." The CNR St. Boniface Yard Lead is shown as a "Yard Track" in *Figure 8: Map of Rail Lines in Winnipeg* and is included as part of the rail yards in *Figure 9: Map of Rail Yards in Winnipeg*.

| Rail Line | FCM/RAC Rail Line Classification | Average No. of Trains[5] | Maximum Speed[6] | Transport Canada Track Class. | OurWinnipeg or Complete Communities Adjacent Policy Area(s) | Adjacent Zoning |
|---|---|---|---|---|---|---|
| CPR LaRiviere | Principle Branch Line | 2-3 trains per day; increases following harvest | 10 mph to Grant Ave; 25 mph from Grant to PTH 100 | Class 2; track transition to Class 3 track at City limits | Mature and Recent Communities; Employment Lands; Regional Mixed Use Centre | Residential, Commercial, Manufacturing, Park |
| CPR Glenboro | Principle Branch Line | Services CentrePort; low usage now but will increase as CentrePort grows | 30 mph | Class 3 | Airport Area, Employment Lands | Agricultural and Manufacturing |
| Central Manitoba Railway (CEMR) Line (formerly the CNR Pine Falls) | Principle Branch Line | 2 trains per day with 6 day service from RM of Springfield to Symington Yards, but service can increase with demand | 25 mph | Class 2 | Mature and Recent Communities; Major Redevelopment Site (Ravelston & Plessis); New Communities (Precinct I) | Residential, Commercial, Manufacturing, Park, Agricultural |
| CEMR Carmen (formerly CNR Carmen) | Principle Branch Line | 2 train trips per day on Mon. and Thurs.; but can increase with demand | 10 mph | Class 1 | New Communities (Precinct N & O) | Agricultural |
| City of Winnipeg Aqueduct | Principle Branch Line | 2 trains per week | 25 mph | Class 2 | Predominantly Employment Lands; Mature Communities | Manufacturing, Residential and Park |
| CNR Canada Cement Lands | Spur | On demand basis | 10 mph | Class 1 | Predominantly Employment Lands; Major Redevelopment Site (Tuxedo/ Lafarge) | Predominantly Manufacturing |

| Rail Line | FCM/RAC Rail Line Classification | Average No. of Trains[5] | Maximum Speed[6] | Transport Canada Track Class. | OurWinnipeg or Complete Communities Adjacent Policy Area(s) | Adjacent Zoning |
|---|---|---|---|---|---|---|
| CNR Oak Point | Spur | On demand basis | 10 mph | Class 1 | Mature Communities; Employment Lands | Residential and Manufacturing |

**Figure 7: Rail Yards in Winnipeg**

| Rail Yard | OurWinnipeg or Complete Communities Adjacent Policy Area(s) | Adjacent Zoning |
|---|---|---|
| BNSF Manitoba Yards | Mature Communities | Predominantly Single-Family Residential |
| CNR Fort Rouge Yards | Major Redevelopment Site (Fort Rouge Yards); Regional Mixed Use Corridor; Mature Communities | Residential, Commercial, Manufacturing |
| CNR Symington Yards | Predominantly Employment Lands; New Communities (Precinct J) | Primarily Manufacturing, Park |
| CNR Transcona Yards | Rural and Agricultural; Mature and Recent Communities | Residential, Commercial, Manufacturing, Agricultural, and Park |
| CNR/CPR Transfer Yard | Major Redevelopment Site (Public Markets); Recent Community; Employment Lands | Residential, Manufacturing |
| CPR North Transcona Yards | Major Open Space, Recent Communities | Park, Residential |
| CPR St Boniface Yards | Employment Lands | Predominantly Manufacturing |
| CPR Weston Yards | Employment Lands, Mature Communities | Manufacturing, Residential, Commercial |
| CPR Winnipeg Yards | Employment Lands, Mature Communities, Downtown | Residential, Commercial, Manufacturing, Multiple Use Sector |
| GWWD Yard | Employment Lands | Manufacturing |

**Figure 8: Map of Rail Lines in Winnipeg**

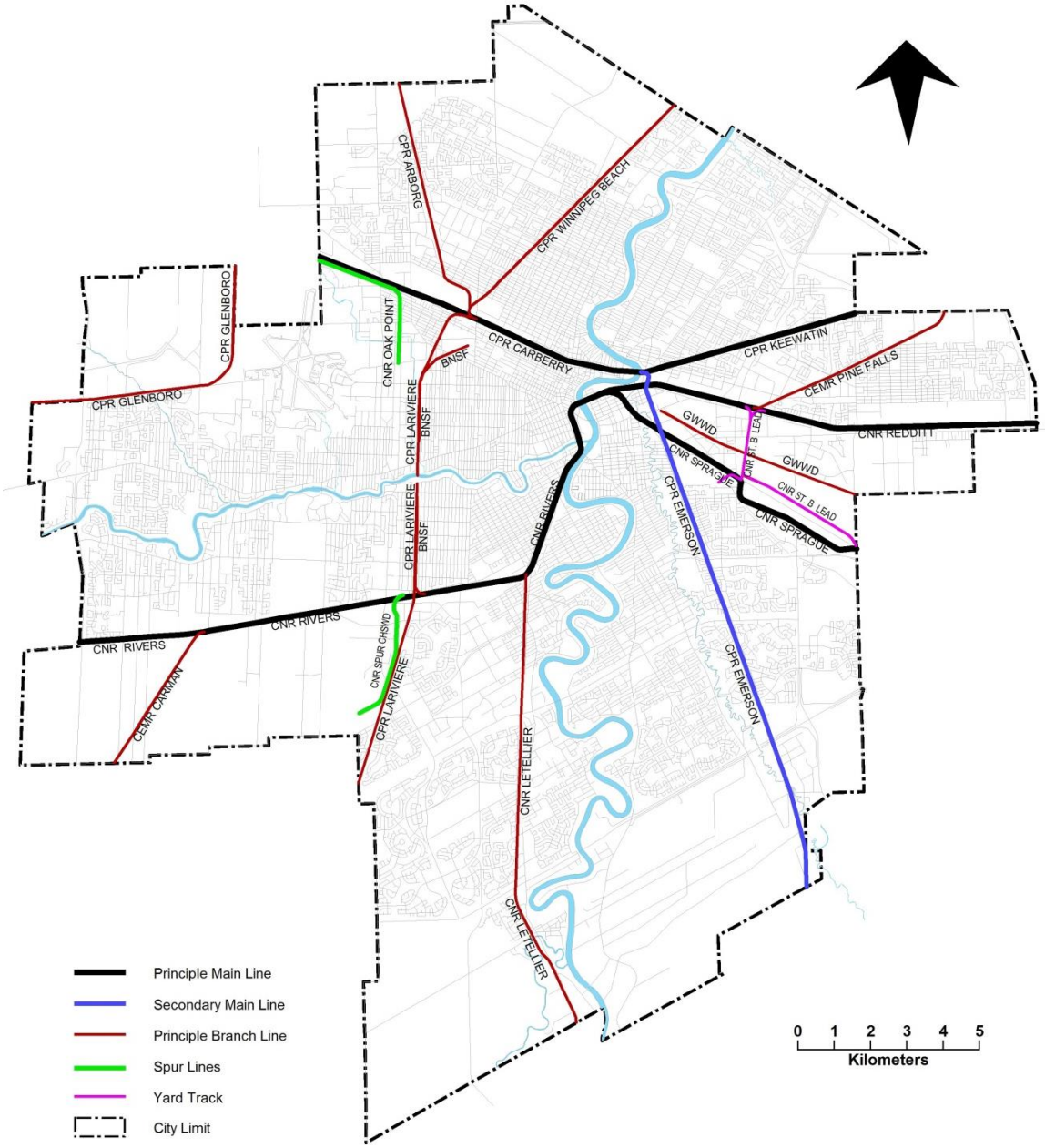
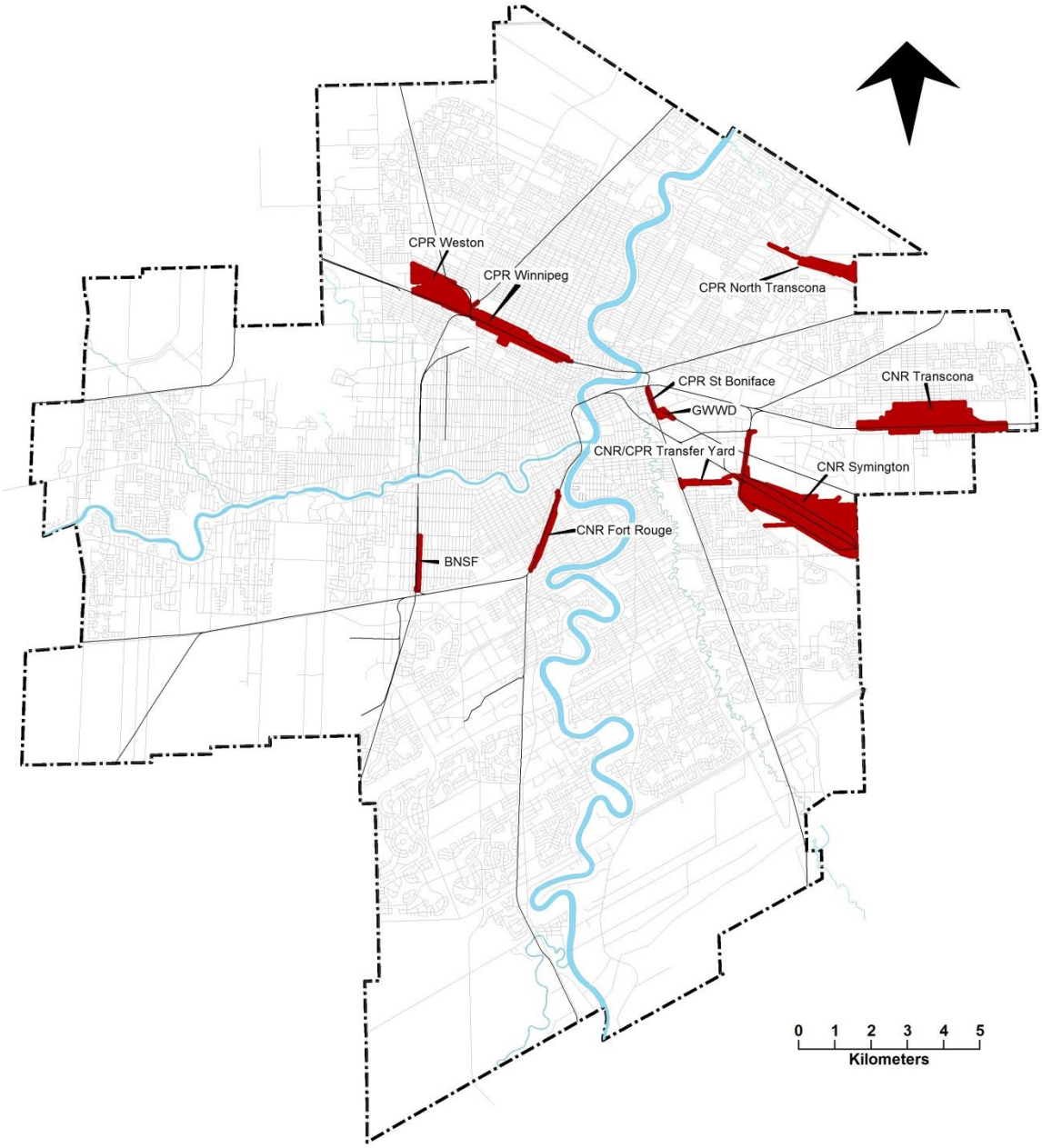


**Figure 9: Map of Rail Yards in Winnipeg**



## *5.0 Review of Other Jurisdictions*

A review of several Canadian municipalities' approaches to regulating development along rail lines was undertaken by the City staff. Official or municipal plans (or development plans in Manitoba) and zoning by-laws from six different municipalities – Moncton, NB; Montreal, QC; Toronto, ON; Regina, SK; Saskatoon, SK; Calgary, AB – were reviewed. Follow-up phone interviews or emails to staff were also conducted for clarification.

The review provides some general insight as to how various municipalities are addressing development adjacent to rail lines in Canada. For some jurisdictions, this is somewhat of an evolving topic with regulations being recently added or, like Winnipeg, in the process of being addressed. The following sections below provide general summaries of key planning regulations guiding development adjacent to rail in the six municipalities. It is important to note that the summaries below only provide a "snapshot" as to what is happening in the six municipalities. In some instances, these municipalities may also have different regulatory tools at their disposal to implement mitigation measures.

### ***Moncton, NB***

In January, 2014, the City of Moncton, New Brunswick updated its Municipal Plan (Development Plan) and Zoning By-Law to incorporate regulations with respect to residential building setbacks adjacent to rail lines. The following policies and council proposals are found within the City of Moncton Municipal Plan:

*Policies*

SU-7 City Council shall work with the rail industry to promote safety along rail right-of-ways.

SU-8 Minimum residential building setbacks from existing rail rights of way shall be established in the Zoning By-law.

*Council Proposals*

su-2 To assist in implementing Policy SU-7, it is proposed that a communication plan be developed to inform area residents of railway operations in the vicinity and safety precautions around rail lines.

su-3 To assist in implementing Policies SU-7 and SU-8, the City proposes to examine appropriate design standards mitigation techniques to minimize sound and vibration impacts and improve safety in proximity to rail lines.

su-4 To assist in implementing Policies SU-7 and SU-8, the City proposes to explore the development of a rail corridor strategy, with particular focus on the downtown area.

In support of the policy SU-8, the Moncton's Zoning By-law was updated to include the following provision, which does not include a berming requirement:

*Sight triangle and setback in zones abutting a railway right-of-way*

111(2) Where a new residential development abuts a railway right-of-way, a minimum 30 metre setback shall be maintained between the railway right-of-way and a main building.

***Montreal, QC***

The City of Montreal updated its Urban Agglomeration Land Use and Development Plan (or Regional Plan) on April 1st, 2015. Within that plan, specific reference is made to the FCM/RAC Guidelines. In the first instance, the Plan poses the general requirements that the cities and boroughs regulated by the Plan should follow the FCM/RAC Guidelines, most notably for vacant lands or transformative areas. More specific requirements are included in Chapter 4.8.3 of the Plan where specific sensitive uses, such as residential uses, hospitals, libraries, and schools, are to be regulated in accordance with the FCM/RAC Guidelines Development Viability Assessment (Appendix A of the FCM/RAC Guidelines) when these sensitive uses are developed adjacent to rail yards and principal main lines.[8] Further regulations are included in the Urban Agglomeration Land Use and Development Plan with respect to vibration and sound levels. All cities and boroughs of the Montreal Agglomeration are to incorporate the provisions of the requirements for development adjacent to rail yards and principle main rail lines in their respective zoning by-laws by October 1, 2015.

Montreal is often cited as the first major Canadian city to adopt key components from the FCM/RAC Guidelines in its Urban Agglomeration Land Use and Development Plan. However, there are components of the FCM/ RAC Guidelines that are not fully implemented, like noise and vibration requirements and mitigation standards for residential and other sensitive uses adjacent to secondary main lines or branch lines.

***Toronto, ON***

In 1998, the new City of Toronto inherited the official plans and zoning by-laws of the six municipalities comprising Metropolitan Toronto through amalgamation. These former official plans and zoning by-laws had various regulations that addressed safety in proximity to rail lines. In 2002, the City of Toronto adopted a new Official Plan that includes policies requiring appropriate buffering along rail corridors:

*Section 3.4: Natural Corridors*

21. Major facilities such as airports, transportation/rail infrastructure, corridors and yards, waste management facilities and industries and sensitive land uses such as residences and educational and health facilities will be appropriately designed, buffered and/or separated from each other to prevent adverse effects from noise vibration, odour, and other contaminants, and to promote safety. To assist in identifying impacts and mitigative measures, the proponent may be required to prepare studies in accordance

[8] Ville De Montreal. By-Law RCG 14-029. Schema D'Amenagement et de Developpement de L'Agglomeration de Montreal. April 1, 2015

with guidelines established for this purpose. The proponent will be responsible for implementing any required mitigative measures.

*Section 4.4: Utility Corridors*

5. Where appropriate, development or redevelopment on lands nearby or adjacent to *Utility Corridors* will:

    b) Screen and secure the property edge through such measures as setbacks, fencing, site grading, berms, landscaping, building treatment and construction techniques.

Although the recently adopted city-wide zoning by-law for the City of Toronto (By-law No. 569-2013) includes some setback requirements for development adjacent to rail corridors, these setback requirements are not consistently applied and are typically listed as “Site Specific Exceptions”.

In 2014, the City of Toronto initiated a study and Official Plan amendment of Dupont Street, between Ossington Avenue and Kendal Avenue, which included lands adjacent to a CPR principle main line that averages 35-40 trains a day.[9] The City of Toronto hired a rail consultant to undertake a risk assessment and management study to review the safety and mitigation measures that should be implemented as part of any redevelopment in the study area. The Risk Assessment and Management Study ultimately concluded that any principal building containing high-density or high-occupancy uses should apply the standard mitigation for sensitive uses adjacent to principle main lines per the FCM/RAC Guidelines (30 metre setback; 2.5 metre tall berm with side slopes not steeper than 2.5 to 1; a noise wall on top of the berm; and, a 1.83 metre tall chain link fence on the development side of the rail property line).[10] Further, the study also recommended that mitigation measures be peer reviewed by CPR and the City of Toronto.

Beyond the recommendations provided by the consultant, City of Toronto staff recommended that Council direct planning staff to report on the inclusion of a 30 metre setback from any rail corridor for any sensitive or high-density uses city-wide. Council approved the recommendations, which are to be reported on in the fall of this year. The recommendations also approved by Toronto Council included a direction for planning staff to arrange for a peer

[9] City of Toronto. Dupont Street Study – Wards 19 and 20. http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=efa15886289e3410VgnVCM10000071d60f89RCRD&vgnextchannel=4b4452cc66061410VgnVCM10000071d60f89RCRD&appInstanceName=default&vgnextrefresh=1

[10] City of Toronto. *North Toronto Subdivision Rail Corridor Risk Assessment and Management Study*, prepared by Hatch Mott McDonald (May 15, 2014) http://www1.toronto.ca/City%20Of%20Toronto/City%20Planning/Community%20Planning/Files/pdf/H/HMM336678-RR-230-0001%20Rev%200_2.pdf

review of all development applications and associated rail safety and mitigation studies for proposed development adjacent to a rail corridor, at the cost of the developer.[11]

[11] Toronto City Council. PG 35.6 .*Dupont Street Regeneration Area Study - Official Plan Amendment and Zoning Amendment - Final Report.* August 25, 2014.
http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2014.PG35.6

The official plan amendment and zoning by-law amendment for Dupont Street between Ossington Avenue and Kendal Avenue included regulations with respect to rail safety. The most comprehensive requirements were found in the plan amendment policies. Policies in the official plan amendment included the requirement for noise studies; the construction of 2.5 metre tall berm and 30 metre setback from the CPR line; and, specific requirements for alternative safety measures proposed through rezoning applications.[12] The zoning by-law amendment for the same lands included limited permitted uses for lands within 30 metres of the rail line and included a definition of a berm, which is one of the only permitted uses within 30 metres of the rail line.[13]

***Regina, SK***

Regina's Official Community Plan, Design Regina (adopted in 2013), contains one policy with respect to buffering from rail lines:

*Goal 2 – Health and Environmental Impacts*

Minimize social and environmental impacts and improve the health and safety of the city and region.

11.7 Employ appropriate setback standards to ensure compatible development adjacent to the following: railway, pipeline, and other utility corridors, energy-generation facilities and other features, where required.

Besides a requirement for 1.8 metre tall fence for properties abutting a rail line (Chapter 15, Part 15C, section 2.6), there are no setback or other buffering requirements for sensitive uses in proximity to rail lines in Regina's Zoning By-law. However, a discussion with a City of Regina Planner confirmed that, like Winnipeg, Regina employs buffering requirements for new subdivisions, or greenfield developments adjacent to rail lines. For example, the recently approved Westerra Neighbourhood Plan, which is bordered by a CPR principle main line, included the following policies with respect to buffering from the CPR line:

2.3.3 (a) Residential land uses shall be setback a minimum of 40 metres from the existing CPR rail line right of way boundary.

[12] City of Toronto. By-law No. 1010-2014. *To Adopt Amendment No. 271 to the Official Plan of the City of Toronto respecting the lands located on the north side of Dupont Street from Ossington Avenue to Kendal Avenue*. (August 28, 2014): http://www.toronto.ca/legdocs/bylaws/2014/law1010.pdf

[13] City of Toronto. By-law No. 1011-2014. *To Amend former City of Toronto Zoning By-law No. 436-86, as amended, with respect to lands located on the north side of Dupont Street from Ossington Avenue to Kendal Avenue*. (August 28, 2014). http://www.toronto.ca/legdocs/bylaws/2014/law1011.pdf

2.3.3 (b) The City shall require the dedication and construction of a municipal buffer abutting the CPR corridor that is in general accordance with the conceptual illustration outlined in Figure 9 Land Use Transition Buffer, and the following minimum requirements:

I. A minimum overall width of 40 metres;

II. A landscaped berm sufficient to provide safety and noise attenuation;

III. Landscaping and a pathway constructed along north side of the berm;

IV. A safety fence constructed along the rail corridor property line.

2.3.3 (c) The berm situated within the proposed municipal buffer as detailed in Figure 9 - Land Use Transition Buffer shall be constructed prior to any residential occupancy of land within Phase 2 as shown in Figure 20 - Concept Plan Boundaries.

2.3.3 (d) Adequate pedestrian crossings and measures to prevent trespass from the proposed municipal buffer to the CPR rail right of way shall be considered and implemented where possible in coordination with CPR.

***Saskatoon, SK***

The City of Saskatoon's Official Community Plan (adopted in 2009) contains buffering policies for development adjacent to rail lines under its Neighbourhood Design and Development section:

*5.1.2(l) Buffer Incompatible Uses*

> Residential uses shall be properly buffered from incompatible uses, railways and major roadways. New residential development shall not be permitted in areas with an Airport Noise Exposure Forecast (NEF) rating of 30 or more.

Additional policies for residential development adjacent to major roadways and rail lines are included in section 16.2 of the Plan. These policies are specific noise and vibration requirements that the developer is obligated to assess and bear any costs associated with the attenuation measures.

Saskatoon's Zoning By-law No. 8770 includes a provision allowing the erection of a 2.5 metre tall fence along a side or rear property line abutting a rail line. There are no other regulations with respect to buffering residential or other sensitive uses adjacent to rail lines. Like Regina and Winnipeg, Saskatoon employs buffering requirements for new subdivisions, or greenfield developments adjacent to rail lines. For example, the Saskatoon East Sector Plan (Holmwood Sector Plan) includes a policy that references the FCM/RAC Proximity Guidelines and Best Practices standard mitigation requirement of a 2.5 metre tall berm and 30 metre setback for development abutting the rail line.

***Calgary, AB***

Similar to the City of Winnipeg, the City of Calgary is in the process of reviewing its practices for development adjacent to rail. The City of Calgary Municipal Development Plan and Land Use (Zoning) By-law currently do not include specific policies with respect to buffering standards for development adjacent to rail lines. However, the City of Calgary has commonly applied a 27.5 metre setback to any habitable area as measured from the mutual property line of a development area and rail line in new subdivisions.

## *6.0 Sensitive Uses*

While primarily focused on residential development, the FCM/RAC Guidelines also discuss applying mitigation standards for "sensitive uses" developed adjacent to rail lines. The term "sensitive use" is not defined in the FCM/RAC Guidelines. However, sensitive land uses are often classified as uses that either provide overnight accommodation or are public or institutional uses where a large amount of people may gather. Examples from the Winnipeg Zoning By-law No. 200/2006 Table 4-1 could include:

- All of the Residential and Residential Related Uses:
    - Dwelling, live-work
    - Dwelling, multi-family
    - Dwelling, single-detached
    - Dwelling, two-family
    - Mobile home
    - Assisted living facility
    - Care home
    - Dormitory
    - Neighbourhood rehabilitation home
    - Single room occupancy
    - Secondary suite – attached or detached (as an accessory use)

- Public and Institutional Uses:
    - Community/recreation centre
    - Jail/detention centre
    - Library
    - College or university
    - Elementary or junior high school
    - Senior high school
    - Day care centre
    - Hospital
    - Place of worship

- Cultural and Entertainment:
    - Cultural centre

- Commercial sales and Service Uses:
    - Hostel
    - Hotel or motel

In the jurisdictions reviewed, residential was the primary focus of incorporating setbacks and buffering from rail lines or yards. The City of Toronto is in the process of looking at incorporating a 30 metre setback from any rail corridor for any sensitive or high density uses citywide in the zoning by-law per the recommendations of the Dupont Street Regeneration Area Study. Only the City of Montreal had defined sensitive uses for development adjacent to rail lines. These uses are found in section 4.8.3.1 of the City of Montreal's Urban Agglomeration Land Use and Development Plan:

- Residential
- One of the following community or institutional facilities:
    - Library
    - Home-care and long-term care centre
    - Child and youth protection centre
    - Rehabilitation centre
    - Health and social services centre
    - Hospital
    - School
    - Religious building, such as a place of worship or convent
    - Daycare.

## *7.0 What Could Be the Effect of Applying the FCM/RAC Guidelines in the Downtown Winnipeg Zoning By-law or the Winnipeg Zoning By-law?*

The FCM/RAC Guidelines suggest that municipalities should establish minimum setback requirements through a zoning by-law amendment as a policy recommendation. Some of the Canadian municipalities reviewed in this report have incorporated such setbacks in their respective zoning by-laws or are in the process of updating their zoning by-laws to include setbacks from rail lines.

The Public Service tested the idea of applying the recommended setbacks to assess the impact to property if these regulations were incorporated into either of the zoning by-laws. Thirty (30) metre setbacks were applied from the rail property lines for all main lines and fifteen (15) metre

setbacks were applied to all branch lines. Through this review, the Public Service found that a significant number of properties would end-up with significantly reduced development rights if such setbacks were unilaterally applied through a zoning by-law change. The recommended 300 metre setback from a rail yard would significantly impact the development rights of a substantial number of properties. As stated in the FCM/RAC Guidelines:

> *The main objective of this report is to provide a set of guidelines that can be applied to mitigate the impacts of locating new development in proximity to railway operations. It is important to note that these guidelines are not intended to be applied to existing locations where proximity issues already exist, as these locations present their own unique challenges which must be addressed on a site specific basis (pg 8).*

Existing built-up neighbourhoods that are adjacent to rail lines require planning for long-term change in targeted areas. In Winnipeg, incorporating blunt setback rules in the zoning by-law could significantly impact the properties' development rights to the point where virtually nothing can be developed on the site due to the setback requirement.

A more balanced approach to addressing safer development for residential or sensitive uses adjacent to rail would be for City of Winnipeg policy to focus on requiring mitigation from rail lines in situations where property owners are seeking increases to their existing land entitlements through a rezoning, subdivision, consent to convey, zoning agreement amendment, conditional use, or variance. Specific policy changes and other recommendations for making the development of sensitive uses safer and more livable adjacent to rail are discussed in the *Recommendations* section below.

## *8.0 Recommendations*

The brief review of properties within the recommended setback distance of 30 metres or 15 metres to a main or branch rail line respectively reveals that if these recommended setbacks were applied through a zoning by-law requirement, a significant number of properties would be virtually undevelopable. Further, the opportunity to incorporate a berm recommended with either the 30 metre or 15 metre setback is in many cases difficult or impossible for existing developed areas due to the smaller size of existing lots. Implementing zoning changes could be possible, but only if they are tailored to specific areas after an appropriate planning process has been undertaken that identifies how the properties adjacent to the rail lines can transition over time.

Though an overall text amendment to the Winnipeg Zoning By-law No. 200/2006 and the Downtown Winnipeg Zoning By-law No. 100/2004 may not be a feasible solution to increasing safety for development adjacent to rail, there are a number of potential solutions the City of Winnipeg can pursue. These potential solutions are discussed in the following sections.

**Recommendation 1: Amend *OurWinnipeg* and/or the *Complete Communities Direction Strategy* to Include Policies for Development of New Residential and Sensitive Uses Adjacent to Rail Lines and Yards**

As previously discussed, both *OurWinnipeg* and the *Complete Communities* do not have any policies for the development of residential or sensitive uses next to rail corridors. The absence of such policy in the Development Plan or Official Plan is inconsistent with most of the Canadian jurisdictions reviewed.

The Public Service recommends amending *OurWinnipeg* and/or the *Complete Communities Direction Strategy* to include policies regarding buffering or mitigation measures between new residential or potentially sensitive uses adjacent to rail lines or yards. The intent would be to focus implementing measures for mitigation on new development requiring a rezoning, subdivision, consent to convey, zoning agreement amendment, conditional use or variance where the addition of a dwelling unit(s) or the intensification of a sensitive use is proposed.

An *OurWinnipeg* amendment would require ministerial approval and could take approximately one year to complete. A *Complete Communities* amendment could take approximately 8-12 months to complete.

**Recommendation 2: Develop Council-Endorsed Guidelines for Buffering Residential and Sensitive Uses from Rail Lines and Yards**

Creating a general policy in *OurWinnipeg* and/or the *Complete Communities Direction Strategy* that identifies the instances when mitigation measures will be required to buffer development adjacent to rail lines is needed in either of the City's higher order plans. However, details as to how the mitigation measures may be employed can vary. The FCM/RAC Guidelines provide a number of different types of buffering or mitigation measures, but the FCM/RAC Guidelines direct proponents towards the standard mitigation. Some jurisdictions, like Toronto, have required peer reviewed mitigation studies from the developer. The standard mitigation (30 metre setback with 2.5 metre tall berm for development adjacent to a main line) may be very achievable for large, greenfield developments in Precincts or large-scale subdivisions, but are often difficult to accomplish for smaller infill sites.

Given the varying types of mitigation measures for buffering that may be employed, the Public Service is recommending that guidelines –for Council endorsement – be developed at the same time as an amendment to *OurWinnipeg* and/or the *Complete Communities Direction Strategy* is in process. The FCM/RAC Guidelines provide the logical base for the document and it is anticipated that much of the guidance for the mitigation measures would be similar to the recommended measures found in the FCM/RAC Guidelines. The guidelines could serve the administration and the public in providing direction on the various acceptable forms of mitigation measures that could be applicable for a new development proposal that requires a variance, conditional use, subdivision, consent to convey, rezoning, or zoning agreement amendment

where the addition of one or more dwelling unit(s) or the intensification of a sensitive use is proposed.

In light of the recent discussions regarding rail rationalization in Winnipeg, creation of a guidelines document provides a flexible tool that becomes easier to amend if rail rationalization plans come to fruition. At this time, without the full scope, feasibility, timelines, and priority yards and rail lines identified, it is anticipated that all major rail yards and lines would be included in the guidelines until further clarification on rail rationalization is completed.

### Recommendation 3: Conduct Hazard Risk and Vulnerability Assessment for the City, which would include Rail Lines

Although it is impractical to implement mitigation and setback standards in either the Winnipeg or Downtown Winnipeg Zoning By-laws for established neighbourhoods, the City of Winnipeg can work to better coordinate emergency services in the event of a rail emergency by conducting a hazard risk and vulnerability assessment. Such an assessment could focus solely on the rail industry; however, the City would benefit from a complete assessment as such an assessment does not currently exist.

A comprehensive examination of the City of Winnipeg's hazards and associated risk levels of such; along with the state of vulnerabilities provides a bench mark tool for assessing priorities in making the city safer. There are many types of hazard studies. A single focus (railway industry) assessment while being useful and cost effective, only offers one view or angle of the bigger picture when it comes to identifying hazard, measuring risk and deciding on actions to make our city safer.

### Recommendation 4: Investigate the Potential to Regulate Sound and Vibration Levels within New Residential Development in the Vicinity of Rail Lines

When reviewing mitigation strategies for sensitive development near rail lines, a common issue that is discussed is the need to mitigate noise and vibration within the new development. The FCM/RAC Guidelines provide the following recommended noise criteria for new residential or other sensitive land uses in proximity to freight corridors, which were adapted from the Ontario Ministry of the Environment LU 131 Guideline:

AC1.4 // RECOMMENDED NOISE CRITERIA FOR NEW RESIDENTIAL OR OTHER SENSITIVE LAND USES IN PROXIMITY TO FREIGHT RAILWAY CORRIDORS

| TYPE OF SPACE | TIME PERIOD | SOUND LEVEL LIMIT Leq* (dBA) Rail** | OUTDOOR SOUND LEVEL LIMIT Leq * (dBA) |
|---|---|---|---|
| Bedrooms | 2300 to 0700 hrs | 35 | 50 |
| Living/dining rooms | 0700 to 2300 hrs | 40 | 55 |
| Outdoor Living Area | 0700 to 2300 hrs | ***55 | N/A |

* Applicable to transportation noise sources only.

** The indoor sound level limits are used only to determine the architectural component requirements. The outside façade sound level limits are used to determine the air conditioning requirements.

*** Mitigation is recommended between 55dBA and 60dBA and if levels are 60dBA or above, mitigation should be implemented to reduce the levels as close as practicable to 55dBA.

(SOURCE: ADAPTED FROM THE ONTARIO MINISTRY OF THE ENVIRONMENT LU-131 GUIDELINE)

For vibration, the FCM/RAC Guidelines recommend that the developer undertake site testing for dwellings within 75 metres of the rail right-of-way to determine if dwellings will be impacted by vibration conditions in excess of 0.14 mm/sec RMS. If in excess, isolation measures are recommended to be undertaken to ensure that vibration conditions in living areas do not exceed 0.14 mm/sec RMS on and above the first floor of the dwelling.

It is not typical of the Public Service to recommend regulating building construction standards in association with a rezoning or subdivision (as examples). Including building construction clauses with, for example, a subdivision and rezoning may even present internal challenges to ensure that the standards are adhered to through the building permit process. Beyond administrative considerations, a better understanding of the costs associated with sound and vibration testing/mitigation and local expertise in the field is needed prior to moving forward with such a recommendation. Further research and consultation with the development industry is required prior to developing regulations or guidelines with respect to sound and vibration mitigation adjacent to rail. However, sound and vibration testing/mitigation for new residential development adjacent to active rail lines should remain a consideration.

**Recommendation 5: Long-Range Planning and Potential Zoning Changes for Specific Areas Adjacent to Rail Lines**

Over the long-term, after policy direction is established in *OurWinnipeg* and/or the *Complete Communities Direction Strategy* and Council-endorsed guidelines are adopted for buffering new residential or sensitive uses from rail lines or yards, the Public Service may pursue planning for redevelopment along rail lines when warranted. Most neighbourhoods with properties adjacent to rail are likely to remain fairly static, but opportunities will arise for redevelopment, notably along any rapid transit corridor that follows a rail line. In these areas where transition is likely and desirable from a planning perspective, the Public Service may consider pursuing long-range planning activities such as undertaking secondary plans for specific areas. Zoning changes or

zoning tools, such as a planned development overlay (PDO), could be contemplated if such tools are required to implement the plan.

## *9.0 Public Consultation*

The subject report has been produced as a background document with a list of recommendations for Council's consideration. Public consultation has not been undertaken in conjunction with the development of the recommendations in this report. If Council concurs in the recommendations of the Public Service, consultation will be required for both the proposed amendments to *OurWinnipeg* and/or the *Complete Communities Direction Strategy* and for the development of the guidelines document for buffering residential and sensitive uses from rail lines and yards (Recommendations 1 & 2).